



AP.PRE.REQ

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## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

UK999-027

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]	Application Number	Filed
on <u>December 28, 2005</u>	09/401,676	September 22, 1999
Signature <u>V. Bencivenni</u>	First Named Inventor	
Typed or printed name <u>V. Bencivenni</u>	H.E. Butterworth et al.	
	Art Unit	Examiner
	2131	Christian A. La Forgia

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

applicant/inventor.

assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

attorney or agent of record. 48,956  
Registration number \_\_\_\_\_.

attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34 \_\_\_\_\_.

Signature

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December 28, 2005

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below\*.

<input type="checkbox"/> *Total of _____ forms are submitted.
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This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Patent Application**

Applicant(s): H.E. Butterworth et al.  
Docket No.: UK999-027  
Serial No.: 09/401,676  
Filing Date: September 22, 1999  
Group: 2131  
Examiner: Christian A. La Forgia

I hereby certify that this paper is being deposited on this date with the U.S. Postal Service as first class mail addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature: W. Sonoda Date: December 28, 2005

Title: Data Processing Systems and Method  
for Processing Work Items in Such Systems

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**REMARKS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the outstanding final Office Action dated November 18, 2005, please consider the following remarks:

**REMARKS**

The present application was filed on September 22, 1999 with claims 1-11. Claims 12-14 were added. Claims 1-14 remain pending. Claims 1, 5, 10 and 12 are independent claims.

In the outstanding final Office Action dated November 18, 2005, the Examiner: (i) rejected claims 1-3, 5-7 and 9-11 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,414,858 to Hoffman et al. (hereinafter "Hoffman") in view of Applicant's Admitted Prior Art (hereinafter "AAPA"); and (ii) rejected claims 12-14 under 35 U.S.C. §102(a) and (e) as being anticipated by U.S. Patent No. 5,933,598 to Scales et al. (hereinafter "Scales").

Applicants first note that the status of claims 4 and 8 is unclear. These claims are only addressed in paragraph 11 of the final Office Action where the Examiner merely restates the claims and contends the elements are discussed in AAPA. Applicants strongly disagree with this contention.

With regard to the rejection of claims 1-3, 5-7 and 9-11 under 35 U.S.C. §103(a) as being unpatentable over Hoffmann in view of AAPA, Applicants respectfully assert that the cited combination fails to establish a prima facie case of obviousness under 35 U.S.C. §103(a), as specified in M.P.E.P. §2143.

As set forth therein, M.P.E.P. §2143 states that three requirements must be met to establish a prima facie case of obviousness. For example, the cited combination must teach or suggest all the claim limitations. Thus, it is sufficient to show that a prima facie case of obviousness has not been established by showing that this requirement has not been met.

The collective teaching of Hoffmann and AAPA fails to suggest or render obvious at least the elements of independent claims 1-3, 5-7 and 9-11 of the present invention. For at least this reason, a prima facie case of obviousness has not been established.

The present invention, as recited in independent claim 1, recites a method of processing work items in a data processing system, comprising the steps of: (i) generating an interrupt in response to receipt of a work item in the system; (ii) disabling system interrupts; (iii) scheduling a task through the generated interrupt for processing of the work item; (iv) executing the task to process the work item; (v) processing additional work items received by the system; and (vi) when there are no additional work items for processing, speculatively scheduling a further task for processing of subsequently received work items in the system, without enabling system interrupts. Independent claims 5 and 10 recite other aspects of the invention comprising similar limitations.

Hoffmann discloses a system and method for dynamically varying between interrupt and polling methods to service requests of computer peripherals. The rates of incoming requests are tracked, and if a rate meets a specified threshold, the method may transition from interrupt to polling, or polling to interrupt. AAPA simply discloses that during the handling of a service request through an interrupt, system interrupts are disabled, then reenabled when the handling of the service request is complete.

Independent claims 1, 5 and 10 describe a transition from an interrupt method to a polling method. This transition takes place after a single interrupt is received by the system, through the disabling of system interrupts and scheduling, executing and processing steps of claim 1. When there are no additional work items for processing in the polling method, a further task is speculatively scheduled for processing of subsequently received work items in the system, without enabling system interrupts, as recited in independent claims 1, 5 and 10.

While Hoffman discloses a transition between interrupt and polling methods when a certain request rate is reached, the transition of the present invention is based on the reception of a single interrupt. Additionally, Hoffman fails to disclose the speculative scheduling of a further task for processing of subsequently received work items, when there are no additional work items for processing.

AAPA fails to remedy the deficiencies described above with regard to Hoffman in that AAPA provides no discussion of speculatively scheduled tasks. Therefore, the combination of Hoffman and AAPA fails to suggest or render obvious the elements of independent claims 1, 5 and 10.

Dependent claims 2, 3, 6, 7, 9 and 11 are patentable at least by virtue of their respective dependency from independent claims 1, 5 and 10, and also recite patentable subject matter in their own right. For example claim 2 recites further steps in the method of processing work items in a data processing system, comprising: (vii) executing the speculatively scheduled task to process work items received by the system; (viii) enabling system interrupts when no additional work items have been received by the system when the speculatively scheduled task is executed; (ix) processing one or more work items when at least one work item has been received by the system when the speculatively scheduled task is executed; and (x) speculatively scheduling an additional further task for processing of subsequently received work items after processing the one or more work items, without enabling system interrupts. Dependent claims 6 and 11 recite other aspects of the invention comprising similar limitations.

Dependent claims 2, 6 and 11 recite the possible transition from the polling method to the interrupt method. While Hoffman discloses a transition from a polling method to an interrupt method when a certain request rate is reached, the transition of the present invention is based on a

previously speculatively scheduled task fining no additional work items received by the system for processing. Additionally, Hoffman fails to disclose the processing of one or more received work items when the speculatively scheduled task is executed, or the speculative scheduling of an additional further task for processing of subsequently received work items after processing the received work items.

As discussed above, AAPA provides no discussion regarding speculatively scheduled tasks, and thus fails to remedy the deficiencies of Hoffman described above with regard to claims 2, 6 and 11. Therefore, the combination of Hoffman and AAPA fails to suggest or render obvious the elements of claims 2, 6 and 11. Accordingly, withdrawal of the rejection to claims 1-3, 5-7, and 9-11 under 35 U.S.C. §103(a) is therefore respectfully requested.

With regard to the rejection of claims 12-14 under 35 U.S.C. §102(a) and (e) as being anticipated by Scales, Applicants assert that Scales fails to anticipate the limitations of claims 12-14.

Claim 12 of the present invention recites a method of processing work items where an interrupt-based mechanism for processing work items is provided when system utilization is low with respect to work items, and a polling-based mechanism for processing work items is provided when system utilization is relatively high with respect to work items.

Scales discloses methods for enabling data sharing among workstations of a distributed shared memory system using variable sized quantities of data. In particular, the portion of Scales cited by the Examiner discloses a polling mechanism used to process messages generated by the workstations, and the advantages of such a mechanism over an interrupt mechanism.

Independent claim 12 of the present invention differs from Scales in that it discloses the use of an interrupt based-mechanism and a polling-based mechanism. While Scales discloses a polling mechanism, and the possible use of an interrupt mechanism instead of the polling mechanism, it does not disclose using both a polling mechanism and an interrupt mechanism. Further, Scales does not disclose mechanisms that are dependent on utilization with respect to work items as recited in claim 12 of the present invention.

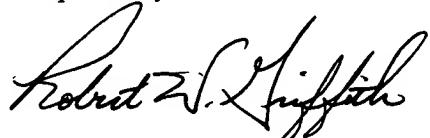
Dependent claims 13 and 14 are patentable at least by virtue of their dependency from independent claim 12, and also recite patentable subject matter in their own right. Accordingly,

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withdrawal of the rejection to claims 12-14 under 35 U.S.C. §102(a) and (e) is therefore respectfully requested.

In view of the above, Applicants believe that claims 1-14 are in condition for allowance, and respectfully request withdrawal of the §103(a), §102(a) and §102(e) rejections.

Respectfully submitted,



Date: December 28, 2005

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